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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/377,667	08/19/1999	HIROMU MUKAI	15162/01020	8179

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SIDLEY AUSTIN LLP
717 NORTH HARWOOD
SUITE 3400
DALLAS, TX 75201

EXAMINER

OMETZ, DAVID LOUIS

ART UNIT PAPER NUMBER

2622

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/377,667

Applicant(s)

MUKAI, HIROMU

Examiner

David L. Ometz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 11-14, 16 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-10, 15, 17-19, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The information disclosure statement (IDS) submitted on 2/22/06 was filed after the mailing date of the non-final office action on 11/16/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

2. Claims 1-24 are currently pending, with claims 4-7, 11-14, 16, 20-22 withdrawn. It is noted by the examiner that previously withdrawn claim 19 was withdrawn in error by the Office, and is thus hereby rejoined. Therefore, claims 1-3, 8-10, 15, 17-19, 23, 24 stand examined.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 8-10, 15, 17-19, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-100179 (hereinafter JP'179) in view of JP 07-050401 (hereinafter JP'401). JP'179 shows an image pickup device in figures 1 and 4 that includes:

As per independent claims 1, 8, 15, and 17; an image input optical system 8/4/1/2 (including lens 8) for forming an image on an image sensor 5 (CCD, see [12] of machine translation), said image input optical system including a diaphragm 3 ("light controlling means", cl. 17); wherein the diaphragm 3 has a shape in a vertical direction (see fig. 4) that, when combined with the teachings of JP'401 (see below), coincides with a shape of said light receiving portions of said image sensor 5, said diaphragm 3 inherently restricting light along a horizontal direction to prevent the light from being incident outside the light receiving portions of the image sensor, and said diaphragm 3 and the light receiving portions of said CCD image sensor 5 are in

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a conjugate (i.e. connected) relationship. However, JP'179 is silent as to the specific layout of the CCD imaging array and therefore does not teach the claimed image sensor having rectangular light receiving portions arranged in a matrix, and microlenses disposed in correspondence with said light receiving portions, said light receiving portions and said microlenses being formed integrally with each other. The reference to JP'401 shows an imaging array in figures 1-3 and 6 that has an image sensor having rectangular light receiving portions 32 arranged in a matrix, and microlenses 36 disposed in correspondence with said light receiving portions 32, said light receiving portions 32 and said microlenses 36 being formed integrally with each other; and a vertical charge transferring portion 33 (fig. 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the CCD sensor taught by JP'179 with the particular rectangular arrayed CCD sensor taught by JP'401 as doing this would provide for an enhancement of the sensitivity of the sensor as taught by JP'401 (abstract). It is noted that by substituting the CCD array of JP'401 into the device of JP'179, the claimed diaphragm/light receiving portions being in a conjugate relationship would be met by the combination.

As per claims 2 and 9, JP'179 teaches wherein said diaphragm 3 has an oval shape having edges which are circular along the horizontal direction and linear along the vertical direction (fig. 4).

As per claims 3 and 10, JP'401 teaches wherein said image sensor has charge transferring portions 33 (fig. 6) adjoining said light receiving portions 32.

As per claims 18 and 19, JP'179 teaches said light controlling means is selected from the group consisting of a diaphragm and a light restricting plate (diaphragm 3).

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As per claims 23 and 24, JP' 179 teaches wherein said diaphragm 3 has a circular shape in a horizontal direction, said circular shape decided in accordance with the effective aperture of the image input optical system. As can be seen in figure 4 of JP' 179, the horizontal circular portions of the diaphragm 3 are created by movable aperture 6, and therefore the horizontal circular portions are directly established by the aperture diameter 6.

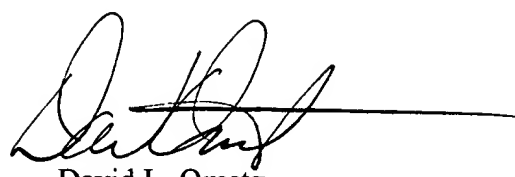
5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 2/22/06 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication should be directed to David L. Ometz at telephone number (571) 272-7593.

A handwritten signature in black ink, appearing to read 'D. Ometz', followed by a long horizontal line extending to the right.

David L. Ometz
SPE
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DLO
4/11/06